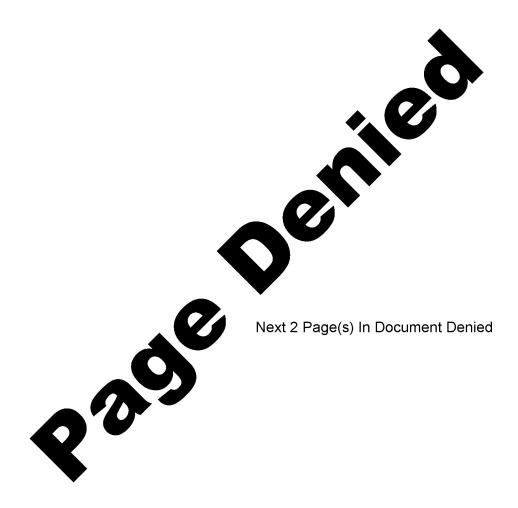
50X1-HUM



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	COUNTRY :	USSR		
	SUBJECT :	MILITARY NEWS: "GO Video Communication	The First Experiment in thations", by Lieutenant-Col	50X1-HUM
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	The First Experiment in the Use of Video Communications 1	
	by	
	LtColonel Ye. Lazarev	
	The implementation of video communications does not eliminate the need for special channels. allowing the passage of oscillations of a very broad frequency spectrum. The transmission of a limited number of frames per second and poor lighting do not interfere with it. It is possible to reduce considerably the number of frames being transmitted per second in the video communications apparatus without impairing the visual quality of the information. Consequently it is possible to receive oscillations with a frequency spectrum which can be successfully transmitted over existing channels of radio-relay communications, and to make these communications secure. Narrowing of the frequency spectrum simplifies the documentation of the integs, in particular, recording them on magnetic tape. The process of exchanging documents takes place in several seconds.	
	At the command-staff exercise with the professor-instructor staff of the Academy i/n M. V. Frunze (February 1960), an industrial type of television apparatus (PTU-OM) was employed for video communications. It was set up at the command posts of the army, of several divisions, and at the command post of the front (in the directing HQ). The apparatus was adapted for transmission and reception of graphic documents.	
	In our first attempt we succeeded in investigating the following questions: the permissible dimensions of the portion of the map being transmitted at the division - army level; the necessary clarity of the image; the advantages provided by video communication between control posts; the possibility of using small frame (narrow band) television for video communication purposes. Data reports about the	
	 Communication in which the users, located at a distance, not only hear but also see each other and can demonstrate on a television screen various objects, documents, and maps. 	
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situation were transmitted over video communications at night, when officers were tired and the situation was tense.

The results of the video transmissions are given in Table 1.

The apparatus gave an image clarity of about 200 lines. Data in the table show that there were almost no problems caused by unintelligibility of the image. Only in two instances did they arise in connection with the fact that the orientation of the position of units of a division was carried out on terrain built up with detached houses. Their topographical symbols on the map (scale 1:100,000) houses. Their topographical symbols on the map (scale 1:100,000) measured 0.4 x 0.8 mm. Let us note that some small details can be successfully restored on a map, by the person receiving, from the words of the person transmitting.

We consider that not all symbols shown on a map need be transmitted, but only the conventional symbols marking the positions of troops, lines which they have reached, or boundaries of the path of the radioactive cloud. Others are: inhabited localities, the road network, rivers, bench marks and soil-vegetation cover. An atomic burst, causing enormous devastation in a large area, abruptly changes the appearance of the terrain. Under these conditions it is possible to orient oneself only by the ground relief, which should be shown on maps in greater detail.

We checked the possibility of transmitting conventional symbols for maps with a scale of 1:50,000 and 1:100,000. The clarity which the apparatus gave was 300 lines. Unidentified symbols and their dimensions are given in Table 2.

Some 364 symbols and type sizes were checked. On a map with a scale of 1:50,000 only 3 of these symbols were unidentifiable, on a map with a scale of 1:100,000 there were 26. But as is evident from the meanings of the unidentifiable symbols, they do not have special the meanings of the unidentifiable symbols, they do not have special significance for transmitting information. Triangulation points and significance for transmitting information. However, when necessary, they bench marks are the only exceptions. However, when necessary, they can be entered on the map beforehand. It is also possible to make can be entered on that great clarity in the video communications the practical deduction that great clarity in the video communications process is not obligatory. If the situation is entered on maps with a scale of 1:50,000 and 1:100,000, then for the dimensions of a section 200 x 200 mm being transmitted, a clarity of 300 lines is section 200 x 200 mm being transmitted, a clarity of 300 lines is adequate. Narrow-band television is quite suitable for the purpose of video communications between control posts.

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	in a short operations by them. such poter obtain a continuous in the tro	period of time of the troops Not one of the ntialities. Here comprehensive proops.	cion apparatus parmi e, an idea of the ge under his command i existing means of c re one glance at the resentation of the s	n the positio communication e screen is en situation that	ns occupied possesses ough to has arisen	
	for trans of inform troops, s of time f reduction	mitting situati ation, even inc ince, as a rule or transmitting in the number	tion apparatus approon data. This is elluding reports on to the the third that the value of the transfer of th	he previous stone the map. The bylously bring ls, which is	tatus of the The reduction g about a very important.	,
	apparatus	s will also find	be drawn that the v d application in an	automateu con	. v	
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lature of the transmission	Ties of mother communication communication	eginning of re of hour, th	ind of recent boots its	To. of questions caused by unincelligibility of the image	Dimensions of map contion of map being transmitted in ma	To. of times are mass neved in ring the neursal the records	Obestions not normerted with the mulity of the image	So vents 50X1-HU
Lituatica resert	ľ	2		i,	10 x 30	2	•	The operator spreaded in entering the situation on the A; during the reception time
climation rejert	7 and (interiorial rifle division)	?3•37	23.43	-	5 ₈₀ × 500	3	3	Lame as above and also defined the mission of the division
iltuition recort	2 11	27.54	00+01	1	300 x 200	3	l,	
Eituation recort	7 t.1	oc.m	02,37	-	1"0 x 1"0	-	L,	(ata were transmitted only about the left clank of the division
Rear units situation recort	- net	·2.07	r2.14	•	Die seeters vere transmitted, sernrated by a distance of 2008	2	3	
Cituation re-ort) ne1	-2.27	07 .2 7	<i></i>	10 x 150	-	-	the situation of enrisoled energy units was transmitted:
.ituation m, o.t	7 nsi	07.37	071	•	1"0 x 2" 0	1,	3	
cituation re; ort	2 . !	r .1°	c: .2 9	-	201 x 200		•	
distriction recort	7 :. 1	12.1	19.17	-	1,00 x 250	4 ,	-	Images of the ground zero of three enemy atomic bursts were transmitted
uituation rejort ari clarification claiden	2:1	12. 4	13.77	• ,- ,	340 x 400	. •		Images of the pround noro of four enemy atomic bursts have transmitted
Definia, divisional concentration area	9 154	13.0"	13,19	• 	2º0 x 201	Kork	•	

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Table 2

Meaning of conventional symbol	Dimensions o	Comments	
•	1:50,000	1:100,000	
Rayon centers and post- relay stations (Somony and urto)	1.6 x 1.6	1.6 x 1.6	Complex shape
Groups of nomed tents (Stoyanki yurt, chumoy)	0.8 x 1.6	0.8 x 1.6	Same as above
Mines, mine galleries	•	1.2	symbol recognized
Oil and natural gas derricks Fuel storage and nutural gas tank	*	0.6 x 2.0 1.2	
Fuel pumps (avtokolonki) Radio towers	•	1.0 - 1.8	
Water-driven sawmills Triangulation points Points on burial mounds (kurgan)	•	1.5 - 0.8.	
Range survey points (punkty poligonometrii)	•	0.9	
Boundary markers Dikes (artificial instal- lations regulating the flow of rivers)	•	0.8 - 1.2	A dark blue . line on light blue back-
Embankments, stone,	•	2.0 - 4.0	ground
Stones Rock snore Magnetic anomalies	*	1.5 - 0.9 1.5 - 0.6 1.2	
Sound and fog stations Impassable saltmarshes	1.2 1.8	0.9 - 1.3	Vertical hachures not
Lichen vegetation Type size of an in-	•	1.2; 0.3	visible; they run together.
habited locality for secondary names and lettering beyond the margin	·	0.9	
Type size of the number of houses Notations of elevations	•	1.2	
and depths Load capacity of ferries, height of waterfalls, bush	•	1.2	

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